## (By Ship's Work Breakdown Structure)

	(by Stilp & Work Disaktiown Students)	TOTAL	
CBO	JP 1 HULL STRUCTURE	MAN-	MATERIAL
GRO	JP 1 HOLL STRUCTURE	HOURS	DOLLARS
100	HULL STRUCTURE, GENERAL		
	SHELL AND SUPPORTING STRUCTURE		
111	Shell Plating, Surf, Ship and Submarine Press. Hull		
112	Shell Plating, Submarine Non-Pressure Hull		
113	Inner Bottom		
114	Shell Appendages		
115	Stanchions		
116	Longit. Framing, Surf. Ship and Submarine Press. Hull		
117	Transv. Framing, Surf. Ship and Submarine Press. Hull		
118	Longit, and Transv. Submarine Non-Press, Hull Framing		
7.4			
120	HULL STRUCTURAL BULKHEADS		
121	Longitudinal Structural Bulkheads		
122	Transverse Structural Bulkheads		
123	Trunks and Enclosures		
124	Bulkheads in Torpedo Protection System		
125	Submarine Hard Tanks		
126	Submarine Soft Tanks		
130	HULL DECKS		
131	Main Deck		
132	2nd Deck		
133	3rd Deck		
134	4th Deck		
135	5th Deck and Decks Below		
136	01 Hull Deck (Forecastle and Poop Decks)		
137	02 Hull Deck		
138	03 Hull Deck	:	
139	04 Hull Deck and Hull Decks Above		
140	HULL PLATFORMS AND FLATS		
141	1st Platform		
142	2nd Platform		
143	3rd Platform		
144	4th Platform		
145	5th Platform		
149	Flats		
150	DECK HOUSE STRUCTURE		
151	Deckhouse Structure to First Level		
152	1st Deckhouse Level		
153	2nd Deckhouse Level		
154	3rd Deckhouse Level		
155	4th Deckhouse Level		
156	5th Deckhouse Level		
	(FFA 4290/2A /F 07)		Page 1

		<del>1 1</del>	
GROU	JP 1 (Continued)	TOTAL MAN- HOURS	MATERIAL DOLLARS
157	6th Deckhouse Level		
158	7th Deckhouse Level		
159	8th Deckhouse Level		
		1	
		-	
160	SPECIAL STRUCTURES		
161	Structural Castings, Forgings, and Equiv. Weldments	<del> </del>	
162	Stacks and Macks (Combined Stack and Mast)		
163	Sea Chests	+	
164	Ballistic Plating	<del> </del>	
165	Sonar Domes	<del> </del>	
166	Sponsons Characteristic Characterist	<del> </del>	
167	Hull Structural Closures  Deckhouse Structural Closures		
168 169	Special Purpose Closures and Structures		,
103	Special Furpose Closures and Structures	1	
		†	
170	MASTS, KINGPOSTS, AND SERVICE PLATFORMS		
171	Masts, Towers, Tetrapods		
172	Kingposts and Support Frames		
179	Service Platforms		
180	FOUNDATIONS		
181	Hull Structure Foundations		
182	Propulsion Plant Foundations		
183	Electric Plant Foundations		
184	Command and Surveillance Foundations		
185	Auxiliary Systems Foundations		
186	Outfit and Furnishings Foundations		
187	Armament Foundations		
190	SPECIAL PURPOSE SYSTEMS		
191	Ballast, Fixed or Fluid, and Buoyancy Units		
192	Compartment Testing	<del> </del>	
195	Erection of Sub Sections (Progress Report Only)	-	
198	Free Flooding Liquids		
199	Hull Repair Parts and Special Tools	1	
<u> </u>		-	
		<del> </del>	
	TOTAL		
		1 1	`
	JP 2 PROPULSION PLANT		
200	PROPULSION PLANT, GENERAL		
	ENERGY GENERATING SYSTEM (NUCLEAR)		<del></del>
211	(Reserved)		
212	Nuclear Steam Generator	ļ	
213	Reactors	<b> </b>	
214	Reactor Coolant System	1	

GROU	JP 2 (Continued)	TOTAL MAN- HOURS	MATERIAL DOLLARS
215	Reactor Coolant Service Systems		
216	Reactor Plant Auxiliary Systems		
217	Nuclear Power Control and Instrumentation		
218	Radiation Shielding (Primary)		
219	Radiation Shielding (Secondary)		
220	ENERGY GENERATING SYSTEM (NON-NUCLEAR)		
221	Propulsion Boilers		
222	Gas Generators	<del> </del>	
223	Main Propulsion Batteries	<del> </del>	
224	Main Propulsion Fuel Cells		
230	PROPULSION UNITS	ļ	
231	Propulsion Steam Turbines		
232	Propulsion Steam Engines		
233	Propulsion Internal Combustion Engines		
234	Propulsion Gas Turbines		
235	Electric Propulsion		
236	Self-Contained Propulsion Systems		
237	Auxiliary Propulsion Devices		
238	Secondary Propulsion (Submarines)	-	
239	Emergency Propulsion (Submarines)		
240	TRANSMISSION AND PROPULSOR SYSTEMS		
241	Propulsion Reduction Gears		
242	Propulsion Clutches and Couplings		
243	Propulsion Shafting		
244	Propulsion Shaft Bearings		
245	Propulsors	<del>-</del>	
246	Propulsors Shrouds and Ducts		
247	Water Jet Propulsors	<b></b>	
		ļ	
		ļ	
250	PROPULSION SUPPORT SYS. (EXCEPT FUEL AND LUBE OIL)		
251	Combustion Air System		
252	Propulsion Control System		
253	Main Steam Piping System		
254	Condensers and Air Ejectors		
255	Feed and Condensate System		
256	Circulating and Cooling Sea Water System		
259	Uptakes (Inner Casting)		
		1	
260	PROPULSION SUPPORT SYSTEMS (FUEL AND LUBE OIL)		
261	Fuel Service System		
262	Main Propulsion Lube Oil System		
263	Shaft Lube Oil System (Submarines)	<u> </u>	
264	Lube Oil Fill, Transfer, and Purification	<u></u>	

	TOTAL					
GRO	GROUP 2 (Continued)		MATERIAL DOLLARS			
290	SPECIAL PURPOSE SYSTEMS					
298	Propulsion Plant Operating Fluids					
299	Propulsion Plant Repair Parts and Special Tools					
	TOTAL					
GRO	UP 3 ELECTRIC PLANT					
300	ELECTRIC PLANT, GENERAL					
$\overline{}$	ELECTRIC POWER GENERATION					
311	Ship Service Power Generation					
312	Emergency Generators					
313	Batteries and Service Facilities					
314	Power Conversion Equipment					
320	POWER DISTRIBUTION SYSTEMS	<del> </del>				
321	Ship Service Power Cable					
322	Emergency Power Cable System	-				
323 324	Casualty Power Cable System Switchgear and panels					
324	Switchgear and panels					
	LIGHTING SYSTEM					
331	Lighting Distribution					
332	Lighting Fixtures					
<del></del>	POWER GENERATION SUPPORT SYSTEMS					
341 342	SSTG Lube Oil Diesel Support Systems					
343	Turbine Support Systems					
343	Turbino Support Systems					
390	SPECIAL PURPOSE SYSTEMS					
398	Electric Plant Operating Fluids	_				
399	Electric Plant Repair Parts and Special Tools					
	TOTAL					
	JP 4 COMMAND AND SURVEILLANCE					
400	COMMAND AND SURVEILLANCE, GENERAL					
410		+				
411	Data Display Group  Data Processing Group	+				
412	Data Processing Group  Digital Data Switchboards	<del>                                     </del>				
414						

GROU	JP 4 (Continued)	TOTAL MAN- HOURS	MATERIAL DOLLARS
415	Digital Data Communications		
416	Command and Control Testing		
417	Command and Control Analog Switchboards		
,,,	Communication of the Communica		
420	NAVIGATION SYSTEMS		
421	Non-Electrical/Electronic Navigation Aids		
422	Electrical Navigation Aids (Incl Navig. Lights)		
423	Electronic Navigation Systems, Radio		
424	Electronic Navigation Systems, Acoustical		
425	Periscopes		
426	Electrical Navigation Systems		
427	Inertial Navigation Systems		
430	INTERIOR COMMUNICATIONS		
431	Switchboards for I.C. Systems		
432	Telephone Systems		
433	Announcing Systems	ļ	
434	Entertainment and Training Systems		
435	Voice Tubes and Message Passing Systems		
436	Alarm, Safety, and Warning Systems		
437	Indicating, Order, and Metering Systems		
438	Integrated Control Systems		
439	Recording and Television Systems		
440	EXTERIOR COMMUNICATIONS		
441	Radio Systems		
442	Underwater Systems		
443	Visual and Audible Systems		
444	Telemetry Systems		
445	TTY and Facsimile Systems		
446	Security Equipment		
		ļ	
450	SURVEILLANCE SYSTEMS (SURFACE)	ļ	
451	Surface Search Radar		
452	Air Search Radar (2D)		
453	Air Search Radar (3D)		
454	Aircraft Control Approach Radar		
455	Identification Systems (IFF)		
459	Space Vehicle Electronic Tracking		
		ļ	
		<u> </u>	
<u> </u>			
460	SURVEILLANCE SYSTEMS. (UNDERWATER)		
461	Active Sonar		
462	Passive Sonar	ļ	
463	Active/Passive (Multiple Mode) Sonar		
1 464	Classification Sonar		
464 465			

6RGUP 4 (Continued)  Astree ECM Incl Combination Active/Passive)  470 COUNTERMEASURES  471 Active ECM (Incl Combination Active/Passive)  472 Passey ECM  473 Toppedo Decoys  474 Occupational Programme (Including Combination Active/Passive)  475 Degalusating  476 Mine Countermeasures  480 FRE CONTROL SYSTEMS  481 Curn Fire Control Systems (Including Combination Active)  482 Fire Control Systems (Including Combination Active)  483 Fire Control Systems (Including Combination Active)  484 Sp. Fire Control Systems (Including Combination Active)  485 Fire Control Systems (Including Combination Active)  486 Fire Control Systems (Including Combination Active)  487 Fire Control Systems (Including Combination Active)  488 Fire Control Systems (Including Combination Active)  489 Fire Control Systems (Including Combination Active)  480 SPECIAL PURPOSE SYSTEMS  481 Including Combination Active)  482 Fight Control and Including Combination Active)  483 Mon Combination (Including Combination Active)  484 Managered Operational Including Combination Active)  485 Command and Survivaliance Operating Fluids  486 Command and Survivaliance Operating Fluids  487 Command and Survivaliance Operating Fluids  488 Command and Survivaliance Operating Fluids  489 Command and Survivaliance Operating Fluids  489 Command and Survivaliance Operating Fluids  480 Command and Survivaliance Operating Fluids  481 Auric Control  482 Fluin Active Active Control  483 Auric Control  484 Auric Control  485 Compariment Healing System  485 Compariment Healing System  486 Compariment Healing System  487 Auric Control  488 Compariment Healing System  489 Compariment Healing System  480 Compariment Healing System  480 Compariment Healing System  481 Compariment Healing System  482 Fluin Healing System  483 Compariment Healing System  484 Compariment Healing System  485 Compariment Healing System  486 Compariment Healing System  487 Compariment Healing System  488 Compariment Healing System  489 Compariment Healing System  489 Compariment Healing System  480 Co			· · · · · · · · · · · · · · · · · · ·	
Active ECM (Incl Containation Active,Passive)				MATERIAL
471 Active EcM finel Combination Active/Passive) 472 Passive ECM 473 Torpedo Decoys 474 Decoys (Cheff 475 Degaussing 476 Mine Countermeasures  477 Mine Countermeasures  478 Mine Countermeasures  479 FIRE CONTROL SYSTEMS  481 Gun Fire Control Systems (Solar Data Base)  482 Fire Control Systems (Solar Data Base)  483 Fire Control Systems (Solar Data Base)  484 Fire Control Systems Systems (Solar Data Base)  485 Fire Control Systems Systems (Solar Data Base)  486 Fire Control Systems Systems (Solar Data Base)  487 Fire Control Systems Systems (Solar Data Base)  488 Fire Control Systems Systems (Solar Data Base)  490 SPECIAL PURPOSE SYSTEMS  491 Electronic Test, Chackout, and Monitoring Equipment  492 Filight Control and Instrument Landing Systems  493 Non Combac Data Processing Systems  494 Meterological Systems  495 Integrated Operational Intelligence Systems  496 Command and Surv. Repair Parts and Special Tools  497 Command and Surv. Repair Parts and Special Tools  498 Command and Surv. Repair Parts and Special Tools  499 AUXILIARY SYSTEMS  500 AUXILIARY SYSTEMS  500 AUXILIARY SYSTEMS  500 AUXILIARY SYSTEMS  501 CIMATE CONTROL  511 Compartment Heating System  512 Wondalgon System  513 Machinery Space Vertilation System  514 Air Conditioning System  515 Air Revisitation System  516 Refrigaration System  517 Auxiliary Space Vertilation System  518 Fireman Auxiliary Space Water) System  520 SEA WATER SYSTEMS  521 Fireman and Bushing (Sea Water) System  522 Septickles System  523 Wondardown System  524 Suppose and Deck Pares  527 Fireman Adusted Services - Other  528 Pathwile Davinage	GROL	JP 4 (Continued)		DOLLARS
Active ECM (incl Combination Active/Passive)	170		1100110	
Passive ECM			<u>.</u>	
1774				
### Decoys (Other)	-			
475 Mino Countermeasures  476 Mino Countermeasures  480 FIRE CONTROL SYSTEMS  481 Gun Fire Control Systems (Non-Sonar Data Base)  482 Fire Control Systems (Non-Sonar Data Base)  483 Fire Control Systems (Sonar Data Base)  484 Fire Control Systems (Sonar Data Base)  485 Fire Control Systems (Sonar Data Base)  486 Fire Control Systems Switchboards  487 Fire Control Systems Switchboards  488 Fire Control Systems Switchboards  489 Electronic Test, Checkout, and Monitoring Equipment  480 Fire Control Systems Systems  481 Illustration Control and International Systems  482 Fight Control and International Systems  483 Mon Combat Data Processing Systems  484 Materiological Systems  485 Lintegrated Operational Intelligence Systems  486 Command and Surveillance Operating Fluids  487 Command and Surveillance Operating Fluids  488 Command and Surveillance Operating Fluids  489 Command and Surveillance Operating Fluids  480 Command and Surveillance Operating Fluids  480 Command and Surveillance Operating Fluids  481 Command and Surveillance Operating Fluids  482 Command and Surveillance Operating Fluids  483 Command and Surveillance Operating Fluids  485 Command and Surveillance Operating Fluids  486 Command and Surveillance Operating Fluids  487 Command and Surveillance Operating Fluids  488 Command and Surveillance Operating Fluid				
### Author	$\overline{}$			
480   FIRE CONTROL SYSTEMS				
481 Gun Fire Control Systems (Non-Sonar Data Base) 482 Fire Control Systems (Sonar Data Base) 483 Fire Control Systems Switchboards 484 Fire Control Systems Switchboards 485 Fire Control Systems Switchboards 486 Fire Control Systems Switchboards 487 Fire Control Systems Switchboards 488 Fire Control Systems Switchboards 489 Fire Control Systems Switchboards 489 Fire Control Systems Switchboards 480 Fire Control Systems Switchboards 480 Fire Control Systems Switchboards 481 Fire Control Systems Switchboards 482 Fight Control and Instrument Landing Systems 483 Non Combat Data Processing Systems 484 Meteorological Systems 485 Integrated Operational Intelligence Systems 485 Command and Surveillance Operating Fluids 489 Command and Surveillance Operating Fluids 489 Command and Surve Repair Parts and Special Tools 489 Command and Surve Repair Parts and Special Tools 480 Command and Surve Repair Parts and Special Tools 480 Command and Surve Repair Parts and Special Tools 480 Command and Surve Repair Parts and Special Tools 480 Command and Surve Repair Parts and Special Tools 481 Compartment Heating Systems 580 AUXILIARY SYSTEMS 580 CLIMATE CONTROL 581 Compartment Heating System 582 Sprinkler System 583 Washdown System Submarinee) 583 Pumbring Drainage 583 Pumbring Drainage	4/6	Mine Countermeasures		
481 Gun Fire Control Systems (Non-Sonar Data Base) 482 Fire Control Systems (Sonar Data Base) 483 Fire Control Systems Switchboards 484 Fire Control Systems Switchboards 485 Fire Control Systems Switchboards 486 Fire Control Systems Switchboards 487 Fire Control Systems Switchboards 488 Fire Control Systems Switchboards 489 Fire Control Systems Switchboards 489 Fire Control Systems Switchboards 480 Fire Control Systems Switchboards 480 Fire Control Systems Switchboards 481 Fire Control Systems Switchboards 482 Fight Control and Instrument Landing Systems 483 Non Combat Data Processing Systems 484 Meteorological Systems 485 Integrated Operational Intelligence Systems 485 Command and Surveillance Operating Fluids 489 Command and Surveillance Operating Fluids 489 Command and Surve Repair Parts and Special Tools 489 Command and Surve Repair Parts and Special Tools 480 Command and Surve Repair Parts and Special Tools 480 Command and Surve Repair Parts and Special Tools 480 Command and Surve Repair Parts and Special Tools 480 Command and Surve Repair Parts and Special Tools 481 Compartment Heating Systems 580 AUXILIARY SYSTEMS 580 CLIMATE CONTROL 581 Compartment Heating System 582 Sprinkler System 583 Washdown System Submarinee) 583 Pumbring Drainage 583 Pumbring Drainage				
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Fire Control Systems (Non-Sonar Data Base)				
Fire Control Systems (Sonar Data Base)				
Fire Control Systems Switchboards  490 SPECIAL PURPOSE SYSTEMS  491 Electronic Test, Chackout, and Monitoring Equipment  492 Flight Control and Instrument Landing Systems  493 Non Combat Data Processing Systems  494 Meteorological Systems  495 Integrated Operational Intelligence Systems  496 Command and Surv. Repair Parts and Special Tools  497 Command and Surv. Repair Parts and Special Tools  498 Command and Surv. Repair Parts and Special Tools  499 Command and Surv. Repair Parts and Special Tools  490 Command and Surv. Repair Parts and Special Tools  400 Command and Surv. Repair Parts and Special Tools  401 Compartment Heating System  502 CLIMATE CONTROL  513 Machinery Space Ventilation System  514 Air Conditioning System  515 Air Revitalization Systems  516 Refrigaration Systems  517 Auxiliary Boilers and Other Heat Sources  518 Refrigaration System  520 SEA WATER SYSTEMS  521 Firemain and Rushing (Sea Water) System  522 Sprinkler System  523 Washdown System  524 Auxiliary Sea Water System  525 Scuppers and Deck Drains  526 Scuppers and Deck Drains  527 Firemain Actuated Services - Other  528 Plumbing Drainage				
490 SPECIAL PURPOSE SYSTEMS 491 Electronic Test, Checkout, and Monitoring Equipment 492 Flight Control and Instrument Landing Systems 493 Non Combat Data Processing Systems 494 Meteorological Systems 495 Integrated Operational Intelligence Systems 498 Command and Surveillance Operating Fluids 499 Command and Surveillance Operating Fluids 499 Command and Surv. Repair Parts and Special Tools  TOTAL  GROUP 5 AUXILIARY SYSTEMS 500 AUXILIARY SYSTEMS 510 CLIMATE CONTROL 511 Compartment Heating System 512 Ventilation System 513 Machinery Space Ventilation System 514 Air Conditioning System 515 Air Revitalization Systems (Submarines) 516 Refrigeration System 517 Auxiliary Boilers and Other Heat Sources 518 Sea WATER SYSTEMS 520 SEA WATER SYSTEMS 521 Firemain and Flushing (Sea Water) System 522 Sprinkler System 523 Washdown System 524 Auxiliary Sea Water System 525 Firemain Actuated Services - Other 526 Plumbing Drainage				
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494   Meteorological Systems				
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GROUP 5 AUXILIARY SYSTEMS				
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500 AUXILIARY SYSTEMS, GENERAL 510 CLIMATE CONTROL 511 Compartment Heating System 512 Ventilation System 513 Machinery Space Ventilation System 514 Air Conditioning System 515 Air Revitalization Systems (Submarines) 516 Refrigeration System 517 Auxiliary Boilers and Other Heat Sources 518 SEA WATER SYSTEMS 520 SEA WATER SYSTEMS 521 Firemain and Flushing (Sea Water) System 522 Sprinkler System 523 Washdown System 524 Auxiliary Sea Water System 525 Scuppers and Deck Drains 526 Scuppers and Deck Drains 527 Firemain Actuated Services - Other 528 Plumbing Drainage				
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511 Compartment Heating System 512 Ventilation System 513 Machinery Space Ventilation System 514 Air Conditioning System 515 Air Revitalization Systems (Submarines) 516 Refrigeration System 517 Auxiliary Boilers and Other Heat Sources 520 SEA WATER SYSTEMS 521 Firemain and Flushing (Sea Water) System 522 Sprinkler System 523 Washdown System 524 Auxiliary Sea Water System 525 Scuppers and Deck Drains 526 Scuppers and Deck Drains 527 Firemain Actuated Services - Other 528 Plumbing Drainage	500	AUXILIARY SYSTEMS, GENERAL		
512       Ventilation System         513       Machinery Space Ventilation System         514       Air Conditioning System         515       Air Revitalization Systems (Submarines)         516       Refrigeration System         517       Auxiliary Boilers and Other Heat Sources         520       SEA WATER SYSTEMS         521       Firemain and Flushing (Sea Water) System         522       Sprinkler System         523       Washdown System         524       Auxiliary Sea Water System         525       Scuppers and Deck Drains         527       Firemain Actuated Services - Other         528       Plumbing Drainage	510	CLIMATE CONTROL		
513       Machinery Space Ventilation System         514       Air Conditioning System         515       Air Revitalization Systems (Submarines)         516       Refrigeration System         517       Auxiliary Boilers and Other Heat Sources         520       SEA WATER SYSTEMS         521       Firemain and Flushing (Sea Water) System         522       Sprinkler System         523       Washdown System         524       Auxiliary Sea Water System         525       Scuppers and Deck Drains         527       Firemain Actuated Services - Other         528       Plumbing Drainage	511	Compartment Heating System		
514 Air Conditioning System   515 Air Revitalization Systems (Submarines)   516 Refrigeration System   517 Auxiliary Boilers and Other Heat Sources   520 SEA WATER SYSTEMS   521 Firemain and Flushing (Sea Water) System   522 Sprinkler System   523 Washdown System   524 Auxiliary Sea Water System   525 Scuppers and Deck Drains   527 Firemain Actuated Services - Other   528 Plumbing Drainage	512	Ventilation System		
515 Air Revitalization Systems (Submarines) 516 Refrigeration System 517 Auxiliary Boilers and Other Heat Sources  520 SEA WATER SYSTEMS 521 Firemain and Flushing (Sea Water) System 522 Sprinkler System 523 Washdown System 524 Auxiliary Sea Water System 525 Scuppers and Deck Drains 526 Scuppers and Deck Drains 527 Firemain Actuated Services - Other 528 Plumbing Drainage	513	Machinery Space Ventilation System		
515 Air Revitalization Systems (Submarines) 516 Refrigeration System 517 Auxiliary Boilers and Other Heat Sources 520 SEA WATER SYSTEMS 521 Firemain and Flushing (Sea Water) System 522 Sprinkler System 523 Washdown System 524 Auxiliary Sea Water System 525 Scuppers and Deck Drains 526 Scuppers and Deck Drains 527 Firemain Actuated Services - Other 528 Plumbing Drainage	514	,		
516 Refrigeration System   517 Auxiliary Boilers and Other Heat Sources   520 SEA WATER SYSTEMS   521 Firemain and Flushing (Sea Water) System   522 Sprinkler System   523 Washdown System   524 Auxiliary Sea Water System   525 Scuppers and Deck Drains   526 Scuppers and Deck Drains   527 Firemain Actuated Services - Other   528 Plumbing Drainage		Air Revitalization Systems (Submarines)		
520 SEA WATER SYSTEMS 521 Firemain and Flushing (Sea Water) System 522 Sprinkler System 523 Washdown System 524 Auxiliary Sea Water System 526 Scuppers and Deck Drains 527 Firemain Actuated Services - Other 528 Plumbing Drainage	516	Refrigeration System		
521 Firemain and Flushing (Sea Water) System 522 Sprinkler System 523 Washdown System 524 Auxiliary Sea Water System 526 Scuppers and Deck Drains 527 Firemain Actuated Services - Other 528 Plumbing Drainage	517	Auxiliary Boilers and Other Heat Sources		
521 Firemain and Flushing (Sea Water) System 522 Sprinkler System 523 Washdown System 524 Auxiliary Sea Water System 526 Scuppers and Deck Drains 527 Firemain Actuated Services - Other 528 Plumbing Drainage				
521 Firemain and Flushing (Sea Water) System 522 Sprinkler System 523 Washdown System 524 Auxiliary Sea Water System 526 Scuppers and Deck Drains 527 Firemain Actuated Services - Other 528 Plumbing Drainage				
521 Firemain and Flushing (Sea Water) System 522 Sprinkler System 523 Washdown System 524 Auxiliary Sea Water System 526 Scuppers and Deck Drains 527 Firemain Actuated Services - Other 528 Plumbing Drainage				
522     Sprinkler System       523     Washdown System       524     Auxiliary Sea Water System       526     Scuppers and Deck Drains       527     Firemain Actuated Services - Other       528     Plumbing Drainage	520	SEA WATER SYSTEMS	ļ	
523     Washdown System       524     Auxiliary Sea Water System       526     Scuppers and Deck Drains       527     Firemain Actuated Services - Other       528     Plumbing Drainage	521	Firemain and Flushing (Sea Water) System	ļ	
524 Auxiliary Sea Water System 526 Scuppers and Deck Drains 527 Firemain Actuated Services - Other 528 Plumbing Drainage	522	Sprinkler System	<b>_</b>	
526     Scuppers and Deck Drains       527     Firemain Actuated Services - Other       528     Plumbing Drainage	523	Washdown System		
527 Firemain Actuated Services - Other 528 Plumbing Drainage	524	Auxiliary Sea Water System		
527 Firemain Actuated Services - Other 528 Plumbing Drainage	526			
	527	Firemain Actuated Services - Other		
	528	Plumbing Drainage		
	529			

		TOTAL	MATERIAL
GROU	JP 5 (Continued)	MAN- HOURS	DOLLARS
		HOUNS	
530	FRESH WATER SYSTEMS		
531	Distilling Plant		
532	Cooling Water		
533	Potable Water		
534	Aux. Steam and Drains Within Machinery Box		
535	Aux. Steam and Drains Outside Machinery Box		
536	Auxillary Fresh Water Cooling		
540	FUELS AND LUBRICANTS, HANDLING AND STORAGE		
541	Ship Fuel and Fuel Compensating System		
542	Aviation and General Purpose Fuels		
543	Aviation and General Purpose Lubricating Oil		
544	Liquid Cargo		
545	Tank Heating		
3,73	Turk Trouting		
550	AIR, GAS, AND MISC. FLUID SYSTEMS		
551	Compressed Air Systems		
552	Compressed Gases		
553	O <sub>2</sub> N <sub>2</sub> System		
554	LP Blow		:
555	Fire Extinguishing Systems		
556	Hydraulic Fluid System		
557	Liquid Gases, Cargo		
558	Special Piping Systems		
560	SHIP CONTROL SYSTEMS		
561	Steering and Diving Control Systems		
562	Rudder		
563	Buoyancy and Hovering (Submarines)		
564	Trim System (Submarines)		
565	Trim and Heel (Roll Stabilization)		
566	Diving Planes and Stabilizing Fins		
567	Lift Systems		
568	Maneuvering Systems		
570	UNDERWAY REPLENISHMENT SYSTEMS		
571	Replenishment-At-Sea		
572	Ship Stores and Personnel and Equip. Handling		
573	Cargo Handling		
580	MECHANICAL HANDLING SYSTEM		
581	Anchor Handling and Stowage Systems		
582	Mooring and Towing Systems		
583	Boat Handling and Stowage Systems		
584	Mechanically Operated Door, Gate, Ramp, Turntable Sys.		
585	Elevating and Retracting Gear		

GROU	JP 5 (Continued)	TOTAL MAN- HOURS	MATERIAL DOLLARS
586	Aircraft Recovery Support Systems		
587	Aircraft Launch Support Systems		
588	Aircraft Handling, Servicing and Stowage		
589	Miscellaneous Mechanical Handling Systems		
590	SPECIAL PURPOSE SYSTEMS		
591	Scientific and Ocean Engineering Systems		
592	Swimmer and Diver Support and Protection Systems	+	
593	Environmental Pollution Control Systems	<del>                                     </del>	
594	Submarine Rescue, Salvage, and Survival Systems		
595	Towing, Launching and Handling for Underwater Sys.	<b>+</b>	
596	Handling Sys. for Diver and Submersible Vehicles		
597	Salvage Support Systems	<u> </u>	
598	Auxiliary Systems Operating Fluids	+	
599	Auxiliary Systems Repair Parts and Tools	-	
		1	
<u> </u>		<del>                                     </del>	
	TOTAL		
<u> </u>	TOTAL	<del> </del>	
<u> </u>			
GROU	L JP 6 OUTFIT AND FURNISHINGS		
600	OUTFIT AND FURNISHINGS, GENERAL	<del>                                      </del>	
610	SHIP FITTINGS		
611	Hull Fittings		
612	Rails, Stanchions, and Lifelines		
613	Rigging and Canvas		
013	rugging and Carivas		
620	HULL COMPARTMENTATION		
621	Non-Structural Bulkheads		
622	Floor Plates and Gratings		
623	Ladders		
624	Non-Structural Closures		
625	Airports, Fixed Portlights, and Windows		
025	Anports, rixed Fortigites, and Windows		
		1	
		1	
630	PRESERVATIVES AND COVERINGS		
631	Painting	1	
632	Zinc Coating	1	
633	Cathodic Protection		
634	Deck Covering	+	
635	Hull Insulation		
636	Hull Damping		
637	Sheathing Sheathing	1	
638	Refrigerated Spaces	<del></del>	
639	Retrigerated Spaces  Radiation Shielding	+	
639	Kadiation Snielding	<del> </del>	<del></del>
<del> </del>		+	
-		<del>                                     </del>	
	LIVINO OPAGEO	+	
640	LIVING SPACES Officer Porthing and Massing Spaces	-	
641	Officer Berthing and Messing Spaces		Pane

GROU	P 6 (Continued)	TOTAL MAN- HOURS	MATERIAL DOLLARS
642	Noncommissioned Officer Berthing and Messing Spaces		
643	Enlisted Personnel Berthing and Messing Spaces		
644	Sanitary Spaces and Fixtures		
645	Leisure and Community Spaces		
	AFF), WAS AREA (SEC.)		
650 651	SERVICE SPACES  Commissary Spaces		
652	Medical Spaces		
653	Dental Spaces		
654	Utility Spaces		
655	Laundry Spaces		
656	Trash Disposal Spaces		
660	WORKING SPACES		
661	Offices	<u> </u>	
662	Machinery Control Centers Furnishings		
663	Electronics Control Centers Furnishings	1	
664	Damage Control Stations	ļi	
665	Workshops, Labs, Test Areas (Incl Portable Tools, Equip)		
670	STOWAGE SPACES		
671	Lockers and Special Stowage	<del> </del>	
672	Storerooms and Issue Rooms	+	
673	Cargo Stowage	<del>                                     </del>	-
		1	
		<del> </del>	
	ODEGLAL BURDOCE OVCTEMO	<u> </u>	
	SPECIAL PURPOSE SYSTEMS Outfit and Furnishings Operating Fluids	1	
698 699	Outfit and Furnishings Operating Fluids Outfit and Furnish. Repair Parts and Special Tools	1	
099	Outilit and Furnish. Repair Farts and Special 10018		
		1	
-		1	
	TOTAL	1	
GRO	JP 7 ARMAMENT		
700	ARMAMENT, GENERAL		
710	GUNS AND AMMUNITION		
711	Guns		
712	Ammunition Handling		
713	Ammunition Stowage		
720	MISSILES AND ROCKETS		
721	Launching Devices (Missiles and Rockets)		
722	Missile, Rocket, and Guidance Capsule Handling Sys.		
723	Missile and Rocket Stowage		
724	Missile Hydraulics		

GROL	JP 7 (Continued)	TOTAL MAN- HOURS	MATERIAL DOLLARS
725	Missile Gas		
726	Missile Compensating		
727	Missile Environmental Monitoring and Launcher Contr.		
728	Misssile Heating, Cooling, Temperature Control		
730	MINES		
731	Mine Launching Devices		
732	Mine Handling		
733	Mine Stowage		
740	DEPTH CHARGES		
741	Depth Charge Launching Devices		
742	Depth Charge Handling		
743	Depth Charge Stowage		
750	TORPEDOES		
751	Torpedo Tubes		
752 753	Torpedo Handling		Me a double to the control of the co
753 754	Torpedo Stowage Submarine Torpedo Ejection		
754	Submanne Torpedo Ejection		·
760	SMALL ARMS AND PYROTECHNICS		
761	Small Arms and Pyrotechnic Launching Devices		
762	Small Arms and Pyrotechnic Handling		
763	Small Arms and Pyrotechnic Stowage		
770	CARGO MUNITIONS		
772	Cargo Munitions Handling		
772 773	Cargo Munitions Stowage		
,,,	odigo imamitono otoridge		
780	AIRCRAFT RELATED WEAPONS		
782	Aircraft Related Weapons Handling		
783	Aircraft Related Weapons Stowage		
			<del></del>
7.0.	ODEOLI PURDOGE OVOTENCO		
790	SPECIAL PURPOSE SYSTEMS		
792	Special Weapons Handling		
793 797	Special Weapons Stowage Misc. Ordnance Spaces		
798	Armament Operating Fluids	· · · · · · · · · · · · · · · · · · ·	
798 799	Armament Operating Fidids  Armament Repair Parts and Special Tools		
, 55	Administrational Factor and Opposition Footb		
		TOTAL	<u></u>

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GROUP	8 INTEGRATION/ENGINEERING (SHIPBUILDER RESPONSE)	TOTAL MAN- HOURS	MATERIAL DOLLARS
800	INTEGRATION/ENGINEERING (SHIPBUILDER RESPONSE)		
801	Shipbuilders Information Drawings		
802	Contract Drawings		
803	Standard Drawings		
804	Type Drawings		
806	Study Drawings		
810	Production Engineering		
811	Configuration Management		
812	Change Proposals, Scoping and Shipchecking		
813	Planning and Production Control		
820	Special Drawings for Nuclear Propulsion Systems		
830	Design Support		
831	Construction Drawings		
832	Specifications		
833	Weight Engineering		
834	Computer Programs		
835	Engineering Calculations		
836	Models and Mockups		
837	Photographs		
838	Design/Engineering Liaison		
839	Lofting		
840	Quality Assurance		
841	Tests and Inspection, Criteria, and Prodcedures		
842	Trials Agenda Preparation, Data Collection and Anal.		
843	Inclining Experiment and Trim Dive		
844	Combat Systems Checkout Criteria, and Procedures		
845	Certification Standards		•••
850	Integrated Logistic Support Engineering		
851	Maintenance		
852	Support and Test Equipment		
853	Supply Support		
854	Transportation		
855	Engineering Drawings and Specifications		
856	Technical Manuals and Other Data		
857	Facilities		·
858	Personnel and Training		
859	Training Equipment		
890	Special Purpose Items		
891	Safety		
892	Human Factors		
893	Standardization		
894	Value Engineering		
895	Reliability and Maintainability		
896	Data Management		
897	Project Management		
		1	
	TOTAL		
GROUF	9 SHIP ASSEMBLY AND SUPPORT SERVICES		
900	SHIP ASSEMBLY AND SUPPORT SERVICES		
901	901 Thru 979 Reserved for Ident. of Assemblies		
980	Contractual and Production Support Service		
981	Insurance		
982	Trials		
_	A 4290/2A /E 97)		Page 1

GROUP	6 (Continued)	TOTAL MAN- HOURS	MATERIAL DOLLARS
983	Delivery		
984	Open and Inspect (Conversions Only)		
985	Fire and Flooding Protection		
986	Tests and Inspections		
987	Weighing and Recording		
988	Contract Data Requirements (Administration)		
989	Fitting-Out		
990	Construction Support		
991	Staging, Scaffolding, and Cribbing		
992	Temporary Utilities and Services		
993	Material Handling and Removal		
994	Cleaning Services		
995	Molds and Templates, Jigs, Fixtures, and Spec. Tools		
996	Launching		
997	Drydocking		
	TOTAL		
	GRAND TOTAL		

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